UNITED STATES MARINE CORPS



MARINE CORPS BASE PSC BOX 20004 CAMP LEJEUNE, NORTH CAROLINA 28542-0004

> BO 5100.1 BISS/SAFE FEB 1 9 1998

BASE ORDER 5100.1

From: Commander

To:

Distribution

Subj: CONFINED SPACE ENTRY PROGRAM (CSEP)

Ref:

(a) MCO P5100.8E

(b) OSHA 29 CFR (1910.146 (NOTAL)

(c) NAVSEA S6470-AA-SAF-010 (NOTAL)

Encl:

(1) <u>DEFINITIONS</u>

1. Purpose. To establish standard operating procedures and assign responsibility for the safe conduct of the CSEP at Camp Lejeune.

Information. Reference (a) sets forth the basic safety program elements for Marine Corps commands and directs that safety programs comply with applicable regulations. Reference (b) is the CSEP standard issued by the Occupational Safety and Health Administration to ensure that employees are protected from hazards associated with confined space entry and that appropriate training is provided for all employees entering confined spaces. The CSEP is provided to protect authorized employees who must enter confined spaces and may be exposed to hazardous atmospheres, engulfment in materials, conditions which may trap or asphyxiate due to converging of sloping walls, or any other safety or health hazard. Many workplaces contain confined spaces not designed for human occupancy which, due to their configuration, hinder employee activities including entry, work, and exit. Asphyxiation is the leading cause of death in confined spaces. There also have been cases when employees entering confined spaces were crushed or battered by moving parts inside vessels, mixers, etc. The nature of confined spaces can cause vapors to become highly toxic and harmful, and, in some cases, immediately dangerous to life and health (IDLH) unless adequate precautions are taken. These deaths, injuries, and illnesses can be prevented by implementing and maintaining an effective confined space entry program. The CSEP describes the measures necessary to:

5100.1 FEB 19 1998

- a. Prevent unauthorized entry into permit-required confined spaces.
 - b. Identify and evaluate permit space hazards.
- c. Implement the means, procedures, and practices necessary for safe entry operations.

Enclosure (1) provides definitions essential to understanding the requirements for a CSEP.

3. Permit-Required Confined Space Program

- a. The permit-required confined space program is designed to prevent unauthorized entry into permit confined spaces, identify and evaluate hazards, and establish procedures and practices for safe entry including testing and monitoring conditions. The program requires that an attendant be stationed outside permit spaces during entry with procedures to summon rescuers and prevent unauthorized personnel from attempting rescue and a system for preparing, issuing, using, and canceling entry permits. It also includes procedures for entry operations and canceling entry permits, and a review of the permit program at least annually and additionally, as necessary.
- b. The following measures will be implemented as necessary to prevent unauthorized employee entry into permit spaces:
- (1) All affected employees will be informed through initial safety training about the characteristics and presence of permit spaces.
- (2) Some permit spaces may be posted with danger signs to supplement the safety training. However, the posting of danger signs is not all inclusive, and each employee must know what a permit space is, the usual hazards involved, and what precautions are required to ensure safe entry so they can help ensure their own protection.
- c. The following means, procedures, and practices necessary for safe permit space entry operations will be achieved:

- (1) Acceptable entry conditions are present when all permit space entrants are protected from atmospheric hazards, including: Oxygen deficiency (less than 19.5%) or increased oxygen concentration (greater than 23.5%); toxic materials (above the exposure limit); flammable gases and vapors; asphyxiation; engulfment; configuration or any other recognized hazards.
- (2) All hazardous energy sources associated with permit spaces which may expose entrants to potential injury are isolated, locked out and/or tagged out prior to entry.
- (3) All permit entry spaces are thoroughly purged, inerted, flushed, and/or ventilated as necessary to ensure the elimination and/or control of all hazards which may cause entrants injury and/or illness.
- (4) Pedestrian, vehicle, or other barriers will be provided as necessary to protect entrants from external hazards.
- (5) Conditions in permit spaces will be tested and monitored throughout entry, as necessary, to ensure they are acceptable for the duration of the authorized entry.
- d. The following equipment will be provided at no cost to employees, maintained properly, and used properly to ensure the safety of employees entering permit spaces:
 - (1) Testing and monitoring equipment
 - (2) Ventilating equipment
 - (3) Communications equipment
 - (4) Personal protective equipment
 - (5) Lighting equipment
 - (6) Barriers and shields
 - (7) Ingress and egress equipment, i.e., ladders
 - (8) Rescue and emergency equipment
 - (9) Other equipment as needed

e. The entry conditions in the permit space will be tested to determine if acceptable entry conditions exist before entry is authorized to begin. EXCEPTION: If isolation of the space is infeasible because the space is large or is part of a continuous system (such as a sewer), pre-entry testing is performed to the extent feasible before entry and entry conditions are continuously monitored in work areas. The tests and monitoring are conducted in permit spaces as necessary to determine if acceptable entry conditions are being maintained during the course of entry operations. When conducting tests for atmospheric hazards, oxygen tests are conducted first, then combustible gases and vapors, and then for toxic gases and vapors. The tests are conducted in order to ensure that test instruments function properly since an oxygen deficient atmosphere may adversely affect the test results.

f. Permit Systems

- (1) The entry permit is a vital part of the permit space entry program which documents that the required measures have been taken to ensure entrant safety. All pertinent safety requirements must be recorded on the permit including the isolation, ventilation, tests and monitoring, personal protective equipment, and other equipment necessary for entrant safety.
- (2) The following requirements must be recorded (documented) on the entry permit:
- (a) Permit space to be entered, purpose of the entry, and the date and authorized duration of the entry permit.
- (b) Names of authorized entrants (or other suitable tracking system).
 - (c) Current attendants' names.
- (d) Entry supervisor's name, including original authorizing supervisor signature or initials.
 - (e) Hazards of the space.
- (f) Measures used before entry to isolate the space and to eliminate or control the space hazards.
 - (g) Acceptable entry conditions.

- (h) Results of initial and periodic tests accompanied by the names, or initials, of the testers and time of the tests.
- (i) Available rescue and emergency services and how to summon them.
- (j) Communication procedures used by entrants and attendants to maintain contact during entry.
- (k) Equipment, such as personal protective equipment, alarm systems, non-entry rescue (i.e., retreival system) equipment and ventilation equipment, to be provided.
- (1) Any other pertinent information necessary to ensure entrant safety.
- (m) Additional permits, such as hot work, that have been issued to authorize work in the space.

g. Training

- (1) All entry supervisors, attendants, and entrants will be properly trained initially and with refresher training provided when duties and space hazards change or whenever an evaluation determines inadequacies exist in the employees' knowledge. The training provides employees with the necessary understanding, skills and knowledge to safely enter, work in and exit permit spaces. All training is documented with the employees' names, signatures or initials of the trainer, and training date.
- (2) Specific training requirements include, but are not limited to:
- (a) Each affected employee is trained for specified duties, i.e., entrant, attendant, or entry supervisor.
 - (b) Training is provided:
- $\underline{\mathbf{1}}$ Before employee is first assigned permit space entry duties.
- $\underline{2}$ Whenever there is a change in permit space operations that present a new hazard unknown by the employee.

- $\underline{3}$ Whenever there is reason to believe there are either deviations from the entry procedures or inadequacies in the employee's knowledge or use of the procedures.
- (c) The training establishes employee proficiency in the required duties and introduces new or revised procedures, as necessary.
- (d) The training is documented and contains each employee's name, signatures or initials of the trainers, and training dates.
- (e) The training documentation will be available for inspection by employees and their authorized representatives by contacting the shop supervisor.

h. Rescue and Emergency Services

- (1) Rescue and emergency services are provided on site by the Marine Corps Base Fire Protection Division.
 - (2) On-site rescue services.
- (a) Each member of the rescue service has been provided with and is trained to use properly the personal protective equipment and rescue equipment necessary for making rescues from permit spaces. This equipment includes, but is not limited to:
 - 1 Personal Protective Equipment (PPE)
 - a Respiratory Protection
 - b Hard Hats
 - c Eye Protection
 - d Gloves
 - e Body Protection
 - <u>f</u> Foot Protection
 - g Other PPE, as required
 - 2 Rescue Equipment

 $\underline{3}$ Each rescue service member has been trained to perform the assigned duties as well as the authorized entrant training.

4 Each rescue service member practices making permit space rescues at least once every 12 months by means of simulated rescue operations. These operations include removing dummies, manikins, or persons from actual or representative spaces with similar opening size, configuration, and accessibility which simulate the types of spaces involved in rescues.

<u>5</u> Each rescue service member has been trained in basic first aid and in basic life support (BLS). At least one rescue service member holding current certification in first aid and BLS is available for rescue as needed.

(b) To facilitate nonentry rescue, retrieval systems or methods will be used whenever an authorized entrant enters a permit space, unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant. Retrieval systems will meet the following requirements:

 $\underline{1}$ Each authorized entrant will use a chest or full body harness, with a retrieval line attached at the center of the entrant's back near shoulder level, or above the entrant's head.

 $\underline{2}$ Wristlets are only used in lieu of the chest or full body harness when it has been demonstrated that use of the chest or full body harness is infeasible or creates a greater hazard and wristlet use is the safest and most effective alternative.

 $\underline{3}$ Retrieval lines are attached to a mechanical device or a fixed point outside the space so rescue can begin immediately after the rescuer becomes aware that rescue is necessary.

 $\underline{4}$ Mechanical devices will be available to retrieve entrants from vertical type permit spaces more than five feet deep.

 $\underline{5}$ Material Safety Data Sheets (MSDS) or similar written information are kept at the worksite when entrants are exposed to substances requiring such information so they can be made available to the medical facility treating exposed entrants.

i. Testing Equipment

- (1) The accuracy of testing and monitoring equipment may be significantly affected under certain conditions of humidity, pressure, or temperature or by the presence of interfering chemicals. However, if the equipment is properly selected, calibrated, and maintained and operated by well trained employees, the confined space testing and monitoring needs can be effectively met. All persons performing tests and monitoring for permit space entry will be properly trained in the use of and limitations of the assigned testing and monitoring equipment.
- (2) Atmospheric testing is required for two distinct purposes: Evaluation of the hazards of the permit space, and verification that acceptable entry conditions for entry into that space exists.
- (a) Evaluation Testing. The atmosphere of a confined space will be analyzed using equipment of sufficient sensitivity and specificity to identify and evaluate any hazardous atmospheres that may exist or arise, so that appropriate permit entry procedures can be developed and acceptable entry conditions stipulated for that space when other than normal conditions are encountered. Interpretation of this data, and development of the entry procedure, will be performed by the Confined Space Entry Program Manager (CSEPM).
- (b) Verification Testing. The atmosphere of a permit space which may contain a hazardous atmosphere will be tested for residues of all contaminants identified by evaluation testing using permit-specified equipment to determine that residual concentrations at the time of testing and entry are within the range of acceptable entry conditions.
- (3) Duration of Testing. Measurement of values for each atmospheric parameter are made for at least and the minimum response time of the test instrument specified by the manufacturer.

BO 5100.1 FEB 19 1998

(4) Testing Stratified Atmospheres. When monitoring for entries involving a descent into atmospheres that may be stratified, the atmospheric envelope will be tested a distance of approximately four feet (1.22m) in the direction of travel and to each side. If a sampling probe is used, the entrants rate of progress will be slowed to accommodate the sampling speed and detector response.

4. Action

a. Commanding General, Marine Corps Base, Camp Lejeune:

- (1) Appoint in writing a CSEPM, meeting the qualifications for a Gas Free Engineer as described in reference (c).
- (2) Provide adequate funding and staffing for the proper conduct of the CSEP.
- (3) Ensure adequate funding is provided for the Fire Protection Division to provide rescue and emergency services as prescribed in reference (b).

b. <u>Department Heads/Commanding Officers/Directors</u>:

- (1) Those units, divisions and departments having cognizance of, or persons who must enter permit confined spaces, as defined in enclosure (1), must publish an internal CSEP SOP meeting the requirements contained herein, but modified to meet the unique needs of each unit. A sample CSEP on diskette is available upon request from the CSEPM, Base Safety Division, telephone extension 15725.
- (2) Ensure compliance with the training requirements set forth in reference (b).
- (3) Appoint in writing a sufficient number of qualified entry supervisors, attendants, and entry personnel to conduct the unit level CSEP properly.

c. Resident Officer in Charge of Construction (ROICC)

- (1) Ensure that contractors involved in confined space work have an approved CSEP.
- (2) Conduct inspections to verify CSEP compliance at contractor worksites.

d. Base Fire Chief

- (1) Provide required rescue services for the CSEP as prescribed in reference (b).
- (2) Maintain appropriate rescue equipment and training to accomplish rescue from all confined spaces that may be encountered at Camp Lejeune.
- (3) Maintain a current roster of names, addresses and home phone numbers of authorized confined space entry permit providers for permit issuance during an after-hours or weekend emergency.
- e. <u>Base Safety Manager</u>. Maintain overall cognizance of the CSEP.

f. Confined Space Entry Program Manager

- (1) Oversee the conduct of the CSEP.
- (2) Conduct periodic inspections of entry operations to ensure compliance with program requirements.
 - (3) Conduct or oversee nonroutine entry operations.
 - (4) Provide training required to support the CSEP.
- (5) Provide consultation to supervisors/entry personnel on entry procedures.
 - (6) Maintain records of entry operations for one year.
- (7) Provide the Base Fire Division with a current roster of the names, addresses, and phone numbers of authorized entry permit providers for after-hours or weekend emergencies.
 - (8) Conduct annual and periodic review of CSEP.

g. <u>Section/Shop Supervisors</u>

- (1) Identify all employees covered by the CSEP.
- (2) Ensure that all employees covered by CSEP are trained to accomplish assigned duties safely and maintain documentation of training.

- (3) Ensure that employees use entry procedures outlined in the local SOP and references (b) and (c).
- (4) If an entry must be made after hours or over the weekend when any unacceptable condition is encountered, contact the Base Fire Protection Division at extension 13004.
- (5) Ensure that all cutting/welding performed on tanks, pipes, drums, etc., is conducted in accordance with references (b) and (c) and approved by both the Base Safety and the Fire Protection Divisions.
- (6) Ensure entry personnel are provided all required entry, communication, and rescue equipment.
- (7) Compile and maintain inventory of all confined spaces in cognizant areas.

h. Entry Supervisors

- (1) Conduct pre-entry atmospheric testing of the confined space and ensure that all procedures and required equipment are in place prior to authorizing entry.
- (2) Complete and issue entry permits. Post one copy at the worksite and forward one copy to the CSEPM, Base Safety Division.
- (3) Must be cognizant of all conditions in and around permitted spaces to ensure the safety of entrants. The entry supervisor must know the hazards that may be encountered during entry, including information on the mode, signs, or symptoms, and consequences of the exposure.
- (4) Verify that rescue services are available and that the means for summoning them are operable.
- (5) Contact the section/shop supervisor if any abnormal atmospheric reading is encountered or if any question of safety arises.
- (6) Terminate the entry and cancel the permit when the entry is complete or there is a need for terminating the permit.
- (7) Remove unauthorized persons who enter or attempt to enter the space during entry operations.

BO 5100.1 FEB 19 1998

- (8) Determine, whenever responsibility for a permit space entry operation is transferred and at intervals dictated by the hazards and operations performed within the space, that entry operations remain consistent with the permit terms and that acceptable entry conditions are maintained.
- (9) Entry supervisors are not authorized to approve entry for "HOT WORK." Contact the CSEPM, Base Safety Division, extension 13891, and the Fire Protection Division, extension 13004.

i. Entrants must:

- (1) Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.
- (2) Not enter confined spaces prior to issuance of entry permit and without authorization of the entry supervisor.
 - (3) Use equipment properly.
- (4) Communicate with the attendant as necessary to enable the attendant to monitor entrant status and to enable the attendant to properly advise the entrant of the need to evacuate.
 - (5) Alert the attendant whenever:
- (a) The entrant recognizes any warning sign or symptom of exposure.
 - (b) The entrant detects a prohibited condition.
- (6) Exit the permit space as quickly as possible whenever:
- (a) An order to evacuate is given by the attendant or entry supervisor.
- (b) The entrant recognizes any warning sign or symptom of exposure.
 - (c) The entrant detects a prohibited condition.
 - (d) An evacuation alarm is activated.

j. Attendants must:

- (1) Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.
- (2) Be aware of possible behavioral effects of hazard exposure in authorized entrants.
- (3) Maintain a continuous, accurate count of authorized entrants in the permit space and ensure the means used to track and identify authorized entrants accurately identifies who is in the space.
- (4) Remain outside the permit space during entry operations until relieved by another attendant. Once properly relieved, they may participate in other permit space activities, including rescue if they are properly trained and equipped.
- (5) Communicate with authorized entrants to monitor entrant status and alert entrants of the need to evacuate the space.
- (6) Monitor activities inside and outside the space to determine if safe for entrants to remain in the space, and order an evacuation if:
 - (a) The attendant detects a prohibited condition.
- (b) The attendant detects the behavioral effects of hazard exposure in an entrant.
- (c) The attendant detects a situation outside the space that could endanger the authorized entrant.
- (d) The attendant cannot effectively and safely perform required duties.
- (7) Summon rescue and other emergency services as soon as the attendant determines authorized entrants may need assistance.
- (8) Take the following actions when unauthorized persons approach or enter a permit space while entry is underway:
- (a) Warn the unauthorized persons that they must stay away from the permit space.

- (b) Advise the unauthorized persons that they must exit immediately if they have entered the permit space.
- (c) Inform the authorized entrants and the entry supervisor if unauthorized persons have entered the permit space.
- (9) Perform non-entry rescue as specified by that rescue procedure and the entry supervisor.
- (10) <u>PERFORM NO DUTIES THAT MIGHT INTERFERE WITH THE PRIMARY DUTY TO MONITOR AND PROTECT THE AUTHORIZED ENTRANTS.</u>
- k. <u>Contractors</u>. In some cases contractors and other employees may enter permit spaces to perform work. When contractors and others enter permit spaces, the following procedures will be followed:
- (1) The contractor(s) will be informed by a contracting organization, i.e., ROICC, Base Maintenance, Morale, Welfare and Recreation, etc., that the workplace contains permit spaces and that they must follow a permit space entry program per OSHA standard 29 CFR 1910.146 and use an authorized permit for entry.
- (2) All contractors performing permit space entry are required to:
 - (a) Obtain and use the information provided.
- (b) Coordinate entry operations with other employees or contractors working in or near permit spaces.
- (c) Inform the host employer of the permit space program that will be followed and any hazards confronted or created in the space(s).
- 5. Applicability and Scope. The requirements of this program apply to all employees, military and civilian, aboard Camp Lejeune who must enter confined spaces. This program applies to contractor operations only inasmuch as contractor personnel must comply with the provisions of reference (b), and paragraph (h) of this instruction.
- 6. <u>Reserve Applicability</u>. This Order is applicable to the Marine Corps Reserve.

7. <u>Concurrence</u>. This Order has been coordinated with and concurred in by the Commander, U.S. Marine Corps Forces, Atlantic, the Commanding Generals, II Marine Expeditionary Force, 2d Marine Division, and 2d Force Service Support Group, and the Commanding Officer, Naval Hospital.

DISTRIBUTION: A plus SAFD (10)

DEFINITIONS

Acceptable entry conditions. The conditions that must exist in a permit space to allow entry and to ensure that employees involved with a permit-required confined space entry can safely enter into and work within the space.

<u>Attendant</u>. An individual stationed outside one or more permit spaces who monitors the authorized entrants and who performs all attendant's duties assigned in the employer's permit-required space program.

<u>Authorized entrant</u>. An employee who is authorized by the employer to enter a permit-required space.

Blanking or blinding. The absolute closure of a pipe, line, or duct by the fastening of a solid plate (such as a spectacle blind or a skillet blind) that completely covers the bore and that is capable of withstanding the maximum pressure of the pipe, line or duct with no leakage beyond the plate.

<u>Confined space</u>. A space that:

- Is large enough and so configured that an employee can bodily enter and perform assigned work.
- Has limited or restricted means for entry or exit. (Example: Tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry.)
 - Is not designed for continuous employee occupancy.

<u>Double block and bleed</u>. The closure of a line, duct or pipe by closing and locking or tagging two in-line valves and by opening and locking or tagging a drain or vent valve in the line between the two closed valves.

<u>Emergency</u>. Any occurrence, including any failure of hazard control or monitoring equipment, or event internal or external to the permit-required space that could endanger entrants.

BO 5100.1 FEB 1 9 1998

<u>Engulfment</u>. The surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, or crushing.

Entry. The action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

<u>Entry permit (permit)</u>. The written or printed document that is provided by the employer to allow and control entry into a permit required space.

<u>Entry supervisor</u>. The person (such as the employer, foreman, or crew chief) responsible for determining if acceptable entry conditions are present at a permit-required space where entry is planned, for authorizing entry and overseeing entry operations.

Note: An entry supervisor also may serve as an attendant or as an authorized entrant, as long as that person is trained and equipped as required by this Order for each role he or she fills. Also the duties of entry supervisor may be passed from one individual to another during the course of an entry operation.

<u>Hazardous atmosphere</u>. An atmosphere that may expose employees to the risk of death, incapacitation, impairment, or inability to self-rescue (that is, escape unaided from a permit space), injury, or acute illness from one or more of the following causes:

- Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL).

Note: Due to characteristics of test equipment, any reading of flammable, toxic, or abnormal oxygen are cause for non-entry until CSEPM is contacted.

- Airborne combustible dust at a concentration that meets or exceeds its LFL.

Note: This concentration may be approximated as a condition in which the dust obscures vision at a distance of five feet or less.

- Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent;
- Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published in 29 CFR 1910.1200, Toxic and Hazardous Substances, which could result in employees exposure in excess of its dose or permissible exposure limit.
- Any other atmospheric condition that is immediately dangerous to life or health.

Note: For air contaminants for which OSHA has not determined a dose or permissible exposure limit, other sources of information, such as Material Safety Data Sheets that comply with the Hazard Communications Standard, 1910.1200 of this part, published information, and internal documents can provide guidance in establishing acceptable atmospheric conditions.

Hot work permit. The employer's written authorization to perform operations (Example: Riveting, welding, cutting, burning and heating) capable of providing a source of ignition.

Immediately dangerous to life or health (IDLH). Any condition that poses an immediate or delayed threat to life, or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a permit space.

Note: Some materials (hydrogen fluoride gas and cadmium vapor, for example) may produce immediate transient effects that, even if severe, may pass without medical attention, but are followed by sudden, possibly fatal collapse 12-72 hours after exposure. The victim "feels normal" from recovery from transient effects until collapse. Such materials in hazardous quantities are considered to be "immediately" dangerous to life or health.

BO 5100.1 FEB 19 1998

<u>Inerting</u>. The displacement of the atmosphere in a permitrequired space by a noncombustible gas (such as nitrogen) to such an extent that the resulting atmosphere is noncombustible.

Note: This procedure produces an IDLH oxygen-deficient atmosphere.

<u>Isolation</u>. The process by which a permit-required space is removed from service and completely protected against the release of energy and material into the space by such means as: blanking or blinding; misaligning or removing sections of lines, pipes, or ducts; a double block and bleed system; lockout or tagout of all sources of energy; or blocking or disconnecting all mechanical linkages.

Line breaking. The intentional opening of a pipe, line or duct that is or has been carrying flammable, corrosive, or toxic materials, an inert gas, or any fluid at a volume, pressure, or temperature capable of causing injury.

Non-permit confined space. A confined space that does not contain or, with respect to atmospheric hazards, has the potential to contain any hazard capable of causing death or serious physical harm.

Note: All confined spaces aboard Camp Lejeune are classified as PERMIT REQUIRED.

Oxygen-deficient atmosphere. An atmosphere containing less than 19.5 percent oxygen by volume.

Oxygen-enriched atmosphere. An atmosphere containing more than 23.5 percent oxygen by volume.

<u>Permit-required confined space (permit space)</u>. A confined space that has one or more of the following characteristics:

- Contains or has a potential to contain a hazardous atmosphere.

- Contains a material that has the potential for engulfing an entrant.
- Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section;
- Contains any other recognized serious safety or health hazard.

<u>Permit-required confined space program (permit space program)</u>. The employer's overall program for controlling, and, where appropriate, for protecting employees from permit space hazards and for regulating employee entry into permit spaces.

<u>Permit system</u>. The employer's written procedure for preparing and issuing permits for entry and for returning the permit space to service following termination of entry. Prohibited condition means any condition in a permit space that is not allowed by the permit during the period when entry is authorized.

<u>Rescue service</u>. The personnel designated to rescue employees from permit spaces.

Retrieval system. The equipment (including a retrieval line, chest or full-body harness, wristlets, if appropriate, and a lifting device or anchor) used for non-entry rescue of persons from permit spaces.

<u>Testing</u>. The process by which the hazards that may confront entrants of a permit space are identified and evaluated. Testing includes specifying the tests that are to be performed in the permit space.

Note: Testing enables employers both to devise and implement adequate control measures for the protection of authorized entrants and to determine if acceptable entry conditions are present immediately prior to and during entry.